

What is claimed is:

1 1. A method for adjusting an operational characteristic of an audio device
2 comprising:
3 receiving a user spoken utterance from an audio speech source;
4 detecting a position of said audio speech source relative to said audio device;
5 generating proximity data corresponding to said detected position; and
6 processing said received user spoken utterance with a selected signal
7 processing technique based upon said proximity data, said signal processing technique
8 distinguishing said user spoken utterance from background noise.

1 2. The method of claim 1, wherein said selected signal processing technique is
2 selected from a plurality of signal processing techniques wherein each of said signal
3 processing techniques is associated with a proximity range.

1 3. The method of claim 1, wherein said proximity data includes a distance
2 measurement.

1 4. The method of claim 1, said processing step further comprising:
2 determining a phase component of said user spoken utterance, wherein said
3 user spoken utterance is received by a plurality of input transductive elements.

1 5. The method of claim 1, said processing step further comprising:
2 determining a common mode component of said user spoken utterance, wherein
3 said user spoken utterance is received by a plurality of input transductive elements.

1 6. The method of claim 1, said signal processing technique altering an audio input
2 beam.

1 7. A method for adjusting an operational characteristic of an audio device
2 comprising:
3 detecting a position of an audio speech source relative to said audio device;
4 generating proximity data corresponding to said detected position; and
5 selectively adjusting an output level of said audio device based upon said
6 proximity data.

1 8. The method of claim 7, wherein said proximity data includes a distance
2 measurement.

1 9. The method of claim 7, wherein said selected output level is selected from a
2 plurality of predetermined output levels wherein each of said output levels is associated
3 with a proximity range.

1 10. An audio device, comprising:
2 a proximity detector generating proximity data based on a position of an audio
3 speech source relative to said audio device;
4 at least one input transductive element, said input transductive element receiving
5 sound and producing corresponding input audio signals;
6 an output element, said output element providing output audio signals from said
7 audio device to said audio speech source;
8 audio circuitry, said audio circuitry converting said input audio signals from
9 analog to digital format and converting said output audio signals from digital to analog
10 format; and
11 a processor, said processor processing said input audio signals and said output
12 audio signals using signal processing techniques based upon said proximity data.

1 11. The audio device of claim 10, wherein said output element is a speaker.

1 12. The audio device of claim 10, wherein said output element is a connection jack
2 providing output audio signals to an output transductive element.

1 13. The audio device of claim 10, said processor including a digital signal processor
2 processing said input audio signals and said output audio signals.

1 14. The audio device of claim 10, said proximity detector comprising:
2 an infrared transmitter, said infrared transmitter transmitting infrared energy from
3 said audio device; and
4 an infrared detector, said infrared detector detecting at least part of said infrared
5 energy reflected off of said audio speech source.

1 15. A machine readable storage, having stored thereon a computer program having
2 a plurality of code sections executable by a machine for causing the machine to perform
3 the steps of:
4 receiving a user spoken utterance from an audio speech source;
5 detecting a position of said audio speech source relative to said audio device;
6 generating proximity data corresponding to said detected position; and
7 processing said received user spoken utterance with a selected signal
8 processing technique based upon said proximity data, said signal processing technique
9 distinguishing said user spoken utterance from background noise.

1 16. The machine readable storage of claim 15, wherein said selected signal
2 processing technique is selected from a plurality of signal processing techniques
3 wherein each of said signal processing techniques is associated with a proximity range.

1 17. The machine readable storage of claim 15, wherein said proximity data includes
2 a distance measurement.

1 18. The machine readable storage of claim 15, said processing step further
2 comprising:

3 determining a phase component of said user spoken utterance, wherein said
4 user spoken utterance is received by a plurality of input transductive elements.

1 19. The machine readable storage of claim 15, said processing step further
2 comprising:

3 determining a common mode component of said user spoken utterance, wherein
4 said user spoken utterance is received by a plurality of input transductive elements.

1 20. The machine readable storage of claim 15, said signal processing technique
2 altering an audio input beam.

1 21. A machine readable storage, having stored thereon a computer program having
2 a plurality of code sections executable by a machine for causing the machine to perform
3 the steps of:

4 detecting a position of an audio speech source relative to said audio device;
5 generating proximity data corresponding to said detected position; and
6 selectively adjusting an output level of said audio device based upon said
7 proximity data.

1 22. The machine readable storage of claim 21, wherein said proximity data includes
2 a distance measurement.

1 23. The machine readable storage of claim 21, wherein said selected output level is
2 selected from a plurality of predetermined output levels wherein each of said output
3 levels is associated with a proximity range.